Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the

application.

Listing of Claims:

1.   (Currently Amended) A measurement system comprising:

at least one stationary array of sensors at a first location to produce a first array of

measurement outputs which are each associated with a sensor in the array;

at least one scanning sensor at a second location to produce a second array of

measurement outputs which are all associated with one or more sensors of the scanning

sensor; and

means for synthesizing an array of measurement outputs by fusing the first and

second arrays of measurement outputs.

2.   (Original)   The measurement system of claim 1, wherein the stationary

and scanning measurements are compared and reconciled so that the measurements made

by a plurality of sensors are attributed to the same point on material that is being

measured.

3.   (Original)   The measurement system of claim 1, wherein the measurements

comprise time stamp information, cross direction coordinates, machine direction coordinates,

and at least one of machine direction odometer or velocity information.

SV #161389 v1

4.   (Original)   The measurement system of claim 1, wherein the synthetic

measurement is provided by computing an offset using a recursive least mean square

algorithm.

5.   (Original)   The measurement system of claim 4, wherein the recursive least

mean square algorithm is a Kalman filter.

6.   (Original)   The measurement system of claim 5, wherein the Kalman filter

output data is used to compensate for different sensor inputs and bias errors.

7.   (Original)   The measurement system of claim 5, wherein the Kalman data is

used to compensate for the temporal variations in the biases of an array of stationary sensors.

8.   (Original)   The measurement system of claim 1, wherein data measurements

from stationary and scanning sensors are compared by a Kalman filter and an offset

compensation for the sensor measurement drift is calculated.

9.   (Currently Amended) A method for fusing data measurements obtained from

plural locations in a product manufacturing process comprising:

    measuring a variable of at least one of the product properties and the process with

at least one stationary sensor at a first location in the manufacturing process to produce a

first output;

Appl. No. 09/903,733
Amdt. Dated March 22, 2004
Reply to Office action of October 20, 2003

Docket No. 018028-245

measuring the variable of at least one of the product properties and the process

with a scanning, non-stationary sensor at a second location in the manufacturing process

to produce a second output; and

producing a synthetic measurement by fusing the first and second outputs.

10. (Original) The method of claim 9, wherein the stationary and scanning

measurements are compared and reconciled so that the measurements made by a plurality of

sensors are attributed to the same spot on material that is being measured.

11. (Original) The method of claim 10, wherein the measurements comprise

time stamp information, cross direction coordinates, machine direction coordinates, and at

least one of machine direction odometer or velocity information.

12. (Original) The method of claim 9, wherein the synthetic measurement is

provided using an offset computed by a recursive algorithm.

13. (Original) The method of claim 12, wherein the recursive algorithm is a

Kalman filter.

14. (Original) The method of claim 13, wherein the Kalman filter uses different

sensor inputs and computes bias errors.

SV #161389 v1

Appl. No. 09/903,733
Amdt. Dated March 22, 2004
Reply to Office action of October 20, 2003

Docket No. 018028-245

15.   (Original)   The method of claim 13, wherein the Kalman filter computes the

temporal variations in the biases of an array of stationary sensors.

16.   (Original)   The method of claim 9, wherein data measurements from

stationary and scanning sensors are compared by a Kalman filter and an offset compensation

for the sensor measurement drift is calculated.